



Anondo Mukherjee, PhD

Air Quality Scientist



Dr. Mukherjee joined Sonoma Technology's Data Science Department in 2016. He has expertise on the performance and validation of sensor measurements, and develops and evaluates new tools to model and forecast air quality.

Dr. Mukherjee is evaluating measurements from the official near-road pollution monitoring system mandated by the U.S. Environmental Protection Agency (EPA). This dataset is being used to better understand the factors of the environment, the roadway, and the meteorological conditions that contribute to high levels of roadside particulate matter. As part of this project, he helped develop a dashboard using box plots and statistical significance tests to determine (1) where significant differences in near-road and nearby site concentrations (i.e., near-road increments) existed, and (2) whether significant relationships existed between the increments and traffic, distance from roadway, or land use characteristics.

Through studies designed by Sonoma Technology, Dr. Mukherjee has carried out research examining the validation, performance, and application of low-cost sensor measurements of particulate pollution. Using measurements from a network of sensors deployed with regulatory monitors in Sacramento, California, the precision, accuracy, and reliability of the sensors were quantified. Corrected measurements were used to examine differences in community exposure, the variability of pollution loading in the metropolitan region, and the dynamics of diurnal pollution formation.

Dr. Mukherjee completed a doctorate program in the Atmospheric and Oceanic Sciences department at the University of Colorado Boulder in 2018. His research focused on the impact of aerosols on health, visibility, and regional climate, examining the environments of Beijing, China and New Delhi, India. Dr. Mukherjee is a former Air Quality Fellow for the U.S. State Department–U.S. EPA Global Air Quality Fellowship program, where he worked on the Uganda Kampala Capital City project to develop an emissions inventory and conduct air quality modeling and forecasting in Kampala.

This work has included regional analysis and comparison, assessing emission sources and estimating the relative health risk of pollutant exposure. This analysis utilized measurements from satellite data products, surface monitors, and regional air quality models. In the summer of 2018, he worked for the Small Business Assistance Program of the Colorado Department of Public Health and Environment.

Dr. Mukherjee brings prior experience in academia and government to Sonoma Technology, and uses his expertise to provide high quality results for clients and Research & Development projects. He is experienced with leveraging a wide range of resources to examine air quality, including sensor measurements, surface monitors, satellite data products, and air quality models. Dr. Mukherjee is developing skills with geographic information systems (GIS), and is a proficient user of Python, R, IDL, and Microsoft Office. He has taught courses on global climate change at the University of Colorado Boulder and the Metropolitan State University of Denver.

Education

- PhD, Atmospheric Science, University of Colorado at Boulder
- MS, Atmospheric Science, University of Colorado at Boulder
- BS, Applied and Engineering Physics, Cornell University

Memberships

American Geophysical Union

For a list of publications, see sonomatech.com/ResPub/ADMpub.pdf.